L3 90749 S L2
L4 1339 S L3 (L) TRANSCRIPT?
L5 1030 S CORYNEFORM BACTERIA OR CORYNEFORM OR (BACTERIA (L) CORYNEFORM
L6 10 S L5 (L) L4

L6 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2002:256495 HCAPLUS DOCUMENT NUMBER: 136:293614 TITLE: Sequence of mikE17 gene from corynebacteria and use thereof in synthesis of L-lysine Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter INVENTOR(S): PATENT ASSIGNEE(S): Degussa A.-G., Germany SOURCE: PCT Int. Appl., 44 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT: PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE -----WO 2002027009 A1 20020404 WO 2001-EP8781 20010728 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG DE 10113958 A1 20020418 DE 2001-10113958 20010322 PRIORITY APPLN. INFO.: DE 2000-10047867 A 20000927 DE 2001-10113958 A 20010322 AB The mikE17 gene of Corynebacterium glutamicum ATCC13032 encoding a transcription factor is cloned for use in increasing the efficiency of fermn. of L-lysine by coryneform bacteria. The expression vector contg. mikE17 gene is constructed. Methods and culture media for fermentative prepn. of L-lysine with recombinant bacterial strains transformed with these vectors are also provided. Disruption of the mikE17 gene by integration mutagenesis using mikE17 expression vector increased the yield of lysine in a Corynebacterium host from 13.05 g lysine /L at 7.4 OD660 to 15.14 g lysine/L at 7.6 OD660. The fermentatively prepd. L-lysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition. REFERENCE COUNT: THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS 11 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2002 ACS L6 ACCESSION NUMBER: 2002:185331 HCAPLUS DOCUMENT NUMBER: 136:246478 TITLE: Sequence of chrA gene from corynebacteria and use thereof in synthesis of L-lysine INVENTOR(S): Bathe, Brigitte; Schischka, Natalie; Marx, Achim; Pfefferle, Walter PATENT ASSIGNEE(S): Degussa A.-G., Germany SOURCE: PCT Int. Appl., 40 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE ____ -----A1 WO 2002020793 20020314 WO 2001-EP9098 20010807 WO 2002020793 C1 20020613

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                 A1 20020328
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                                       DE 2000-10044756 A 20000909
DE 2001-10112098 A 20010314
PRIORITY APPLN. INFO.:
AB
     The chrA gene of Corynebacterium glutamicum ATCC13032 encoding a
     transcription regulator is cloned for use in increasing the
     efficiency of fermn. of L-lysine by coryneform
    bacteria. The expression vector contg. chrA gene is constructed.
    Methods and culture media for fermentative prepn. of \mathbf{L}-
     lysine with recombinant bacterial strains transformed with these
     vectors are also provided. Disruption of the chrA gene by integration
     mutagenesis using chrA expression vector increased the yield of
     lysine in a Corynebacterium host from 13.05 g lysine/L
     at 7.4 OD660 to 14.27 g lysine/L at 7.6 OD660.
     fermentatively prepd. L-lysine are useful in
     pharmaceutical industry and foodstuff industry and very particularly in
     animal nutrition.
REFERENCE COUNT:
                              THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
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    ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER:
                        2002:172098 HCAPLUS
DOCUMENT NUMBER:
                         136:215516
TITLE:
                        Citb gene from corynebacteria and use thereof in
                        synthesis of L-lysine or valine
INVENTOR(S):
                        Moeckel, Bettina; Hermann, Thomas; Farwick, Mike;
                        Pfefferle, Walter; Marx, Achim
                        Degussa Ag, Germany
PATENT ASSIGNEE(S):
SOURCE:
                        PCT Int. Appl., 44 pp.
                        CODEN: PIXXD2
DOCUMENT TYPE:
                        Patent
LANGUAGE:
                        English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
     PATENT NO.
                    KIND DATE
                                         APPLICATION NO. DATE
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    WO 2002018596
                     A1 20020307
                                         WO 2001-EP8387 20010720
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            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
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    DE 10108841
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                      A1
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                      A1
    US 2002086372
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                                                           20010831
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AB The Citb gene of Corynebacterium glutamicum ATCC13032 encoding a transcription regulator of a two-component system is cloned for use in increasing the efficiency of fermn. of L-lysine by coryneform bacteria. The expression vector contg. Citb gene is constructed. Methods and culture media for fermentative prepn. of L-lysine or L-valine with recombinant bacterial strains transformed with these vectors are also provided. Disruption of the Citb gene by integration mutagenesis using Citb expression vector increased the yield of lysine in a

DE 2000-10042741 A 20000831 DE 2001-10108841 A 20010223

PRIORITY APPLN. INFO.:

Corynebacterium host from 13.1 g lysine/L at 7.5 OD660 to 14.4 g lysine/L at 7.6 OD660, and of valine in a Corynebacterium host from 7.5 g lysine/L at 12.1 OD660 to 11.3 g lysine/L at 13.3 OD660. The fermentatively prepd. L-lysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2002:171943 HCAPLUS

DOCUMENT NUMBER:

136:231334

TITLE:

Sequence of oxyR gene from corynebacteria and use

thereof in synthesis of L-lysine

INVENTOR(S):

Marx, Achim; Farwick, Mike; Hermann, Thomas;

Schischka, Natalie; Bathe, Brigitte

PATENT ASSIGNEE(S): SOURCE:

Degussa Ag, Germany PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent English

LANGUAGE: E: FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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PATENT NO.
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                                                 APPLICATION NO. DATE
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      WO 2002018431 A1 20020307
                                             WO 2001-EP8388 20010720
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               BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
      DE 10110053
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                                                   DE 2001-10110053 20010302
     US 2002064839
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                                 20020530
                                                   US 2001-938641
PRIORITY APPLN. INFO.:
                                                DE 2000-10042052 A 20000826
                                                DE 2001-10110053 A 20010302
                                               US 2001-279415P P 20010329
```

AB The oxyR gene of Corynebacterium glutamicum ATCC13032 encoding a transcription regulator is cloned for use in increasing the efficiency of fermn. of L-lysine by coryneform bacteria. The expression vector contg. oxyR gene is constructed. Methods and culture media for fermentative prepn. of Llysine with recombinant bacterial strains transformed with these vectors are also provided. Enhancement of the oxyR gene expression by oxyR shuttle vector increased the yield of lysine in a Corynebacterium host from 13.68 g lysine/L at 6.8 OD660 to 14.73 g lysine/L at 6.5 OD660. The fermentatively prepd. Llysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition. REFERENCE COUNT: THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:

2002:123219 HCAPLUS

DOCUMENT NUMBER:

136:182549

TITLE:

Sequences of Corynebacterium glutamicum gene lysR3 encoding transcription regulator and its use in increasing yields of L-lysine and L-valine in

fermentation

INVENTOR(S):

Moeckel, Bettina; Kreutzer, Caroline

PATENT ASSIGNEE(S):

Degussa A.-G., Germany PCT Int. Appl., 37 pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

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PATENT NO.
                     KIND DATE
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                                         WO 2001-EP7765 20010706
    WO 2002012505
                     A1
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PRIORITY APPLN. INFO.:
                                        DE 2000-10039049 A 20000810
                                        US 2001-867537 A 20010531
                                        WO 2001-EP7765 W 20010706
```

AB The invention provides sequences of Corynebacterium glutamicum gene lysR3 that encodes a novel **transcription** regulator, and its uses in increasing the efficiency of fermn. of **L-lysine** and

L-valine in coryneform bacteria by attenuation of the

lysR3 gene. The gene was identified by querying a C. glutamicum sequence database for homologs of known lysR3 genes.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2002:123218 HCAPLUS

DOCUMENT NUMBER: 136:182548

TITLE: Sequences of Corynebacterium glutamicum gene lysR2 encoding transcription regulator and its use in

increasing yields of L-lysine and L-valine in

fermentation

Kreutzer, Caroline; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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KIND DATE
    PATENT NO.
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    AU 2001079663
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    US 2002081674
                     A1
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                                        US 2001-826909
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PRIORITY APPLN. INFO.:
                                      DE 2000-10039047 A 20000810
                                      DE 2001-10110346 A 20010303
                                      WO 2001-EP6808 W 20010615
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that encodes a novel transcription regulator, and its uses in increasing the efficiency of fermn. of L-lysine and L-valine in coryneform bacteria by attenuation of the lysR2 gene. The gene was identified by querying a C. glutamicum sequence database for homologs of known lysR2 genes. THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 4 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2002 ACS 2002:123057 HCAPLUS ACCESSION NUMBER: DOCUMENT NUMBER: 136:182547 TITLE: Sequences of Corynebacterium glutamicum gene lysR1 encoding transcription regulator and its use in increasing yields of L-lysine in fermentation Moeckel, Bettina; Farwick, Mike; Hermann, Thomas; INVENTOR(S): Kreutzer, Caroline; Pfefferle, Walter PATENT ASSIGNEE(S): Degussa A.-G., Germany SOURCE: PCT Int. Appl., 38 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE -----WO 2002012295 A1 20020214 WO 2001-EP8258 20010718 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,

BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG DE 10039044 A1 20020221 DE 2000-10039044 20000810 AU 2001089674 **A**5 20020218 AU 2001-89674 20010718 DE 2000-10039044 A 20000810 WO 2001-EP8258 W 20010718

PRIORITY APPLN. INFO.:

AB The invention provides sequences of Corynebacterium glutamicum gene lysR1 that encodes a novel transcription regulator, and its uses in increasing the efficiency of fermn. of L-lysine in coryneform bacteria by attenuation of the lysR1 gene.

The gene was identified by querying a C. glutamicum sequence database for homologs of known lysR1 genes.

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2002:123053 HCAPLUS

DOCUMENT NUMBER: 136:182546

TITLE: Sequences of Corynebacterium glutamicum gene luxR

encoding transcription regulator and its use in increasing yields of L-lysine in fermentation

INVENTOR(S): Moeckel, Bettina; Kreutzer, Caroline; Bathe, Brigitte

PATENT ASSIGNEE(S): Degussa A.-G., Germany SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE WO 2002012291 A2 20020214 WO 2001-EP8256 20010718

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                                        DE 2000-10039043 A 20000810
PRIORITY APPLN. INFO.:
                                        WO 2001-EP8256
                                                        W 20010718
     The invention provides sequences of Corynebacterium glutamicum gene luxR
AB
     that encodes a novel transcription regulator, and its uses in
     increasing the efficiency of fermn. of L-lysine in
     coryneform bacteria by attenuation of the luxR gene.
     The gene was identified by querying a C. glutamicum sequence database for
     homologs of known luxR genes.
1.6
     ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER:
                         2001:28655 HCAPLUS
DOCUMENT NUMBER:
                         134:99670
TITLE:
                         L-lysine producing coryneform bacteria and methods for
                         the production of 1-lysine
INVENTOR(S):
                         Kreutzer, Caroline; Mockel, Bettina; Pfefferle,
                         Walter; Eggeling, Lothar; Sahm, Hermann; Patek,
                         Miroslav
PATENT ASSIGNEE(S):
                         Degussa-Huels Aktiengesellschaft, Germany;
                         Forschungszentrum Juelich
SOURCE:
                         Eur. Pat. Appl., 28 pp.
                         CODEN: EPXXDW
DOCUMENT TYPE:
                         Patent
LANGUAGE:
                         German
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
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                 KIND DATE
                                         APPLICATION NO. DATE
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                     A1 20010110 EP 2000-114502
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                                                            20000707
PRIORITY APPLN. INFO.:
                                        DE 1999-19931314 A 19990707
     The invention concerns the prodn. of L-amino acids by coryneform bacteria
     strain comprising an enhanced pyc gene (Pyruvat-carboxylase-gene), addnl.
     genes are chosen from the dapA gene group (dihydrodipicolinate synthase gene), lysC gene (aspartate kinase gene), lysE gene (lysine-export-carrier-
     gene), dapB gene (dihydrodipicolinate reductase gene), that are used by one
     or together. The dapA gene was most effective enhancer of L-lysine prodn.
     The following L-lysine strain producers were established: Escherichia coli
     K12 DSM 12871, DSM 12875, and Corynebacterium glutamicum DSM 12869, DSM
     12867, DSM 12868, DSM 12866.
REFERENCE COUNT:
                         4
                               THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER:
                        2001:28654 HCAPLUS
DOCUMENT NUMBER:
                         134:99669
TITLE:
                         L-lysine producing coryneform bacteria and methods for
                         the production of L-lysine
INVENTOR(S):
                        Mockel, Bettina; Pfefferle, Walter; Kreutzer,
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WO 2002012291

A3

20020627

Caroline; Hans, Stephan; Rieping, Mechthild; Eggeling,

Lothar; Sahm, Hermann; Patek, Miroslav

PATENT ASSIGNEE(S): Degussa-Huels Aktiengesellschaft, Germany; Forschungszentrum Juelich G.m.b.H.

SOURCE: Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1067192	A1	20010110	EP 2000-114501	20000706
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IE, SI,	LT, LV,	FI, RO		
DE 19931317	A1	20010111	DE 1999-19931317	19990707
JP 2001061485	A2	20010313	JP 2000-202551	20000704
CN 1280184	Α	20010117	CN 2000-109840	20000707
BR 2000002655	Α	20010605	BR 2000-2655	20000707
PRIORITY APPLN. INFO.	:		DE 1999-19931317 A	19990707
3.75 ml 1 . 1				

The invention concerns the prodn. of L-amino acids by coryneform bacteria AΒ strain comprising an enhanced lysE gene (lysin-export-carrier-gene), addnl. genes are chosen from the dapA gene group (dihydrodipicolinate synthase gene), lysC gene (aspartate kinase gene), dapB or pyc gene, that are used by one or together. The following L-lysine strain producers were established: Escherichia coli K12 DSM 12871, DSM 12875, and Corynebacterium glutamicum DSM 12869, DSM 12867, DSM 12868, DSM 12866.

REFERENCE COUNT: THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

WEST Search History

DATE: Wednesday, August 07, 2002

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L12	L11 and lysr1	0	L12
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L10	L9 and (nucleotide or polynucleotide or nucleic acid)	35	L10
L9	L8 and (factor or regulat\$7)	35	L9
L8	L7 and lysine and transcript\$7	. 36	L8
L7	coryneform bacteria or coryneform	412	L7
L6	L5 or l4 or l3 or l2 or l1	20452	L6
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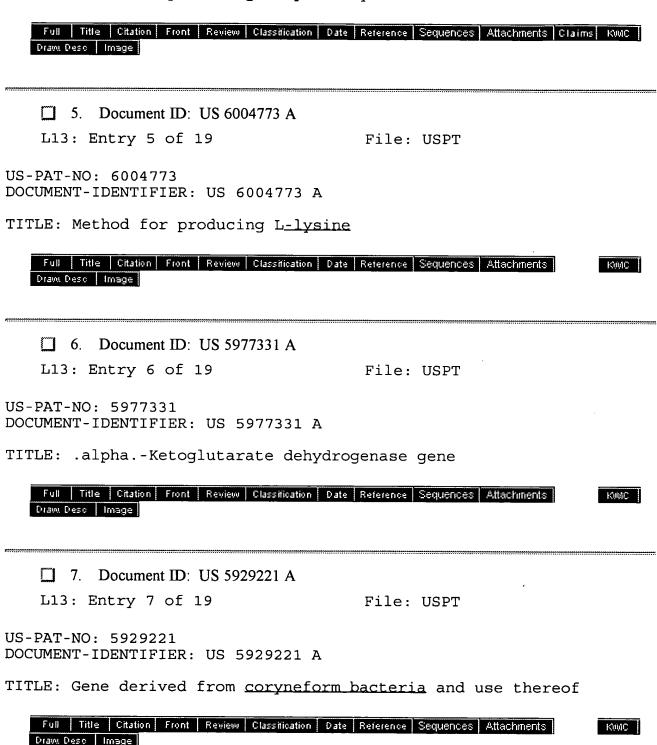
END OF SEARCH HISTORY

Generate Collection Print **Search Results -** Record(s) 1 through 10 of 19 returned. 1. Document ID: US 6361986 B1 L13: Entry 1 of 19 File: USPT US-PAT-NO: 6361986 DOCUMENT-IDENTIFIER: US 6361986 B1 TITLE: Process for the preparation of L-amino acids by fermentation and nucleotide sequences coding for the accDA gene Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims KMC Draw, Desc Image 2. Document ID: US 6255086 B1 L13: Entry 2 of 19 File: USPT US-PAT-NO: 6255086 DOCUMENT-IDENTIFIER: US 6255086 B1 TITLE: Carbamoyl-phosphate synthetase gene of coryneform bacteria and method for producing L-arginine Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims KMC Drawu Desc - Image | 3. Document ID: US 6171833 B1 L13: Entry 3 of 19 File: USPT US-PAT-NO: 6171833 DOCUMENT-IDENTIFIER: US 6171833 B1 TITLE: Pyruvate carboxylase from corynebacterium glutamicum Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims KWC Drawu Desc - Image 4. Document ID: US 6040160 A L13: Entry 4 of 19 File: USPT

US-PAT-NO: 6040160

DOCUMENT-IDENTIFIER: US 6040160 A

TITLE: Method of producing L-lysine by fermentation



8. Document ID: US 5919694 A

File: USPT L13: Entry 8 of 19

US-PAT-NO: 5919694

DOCUMENT-IDENTIFIER: US 5919694 A

TITLE: Mutant phosphoenolpyruvate carboxylase, its gene, and

production method of amino acid

Full Title Citation Front Review Classification Date Reference Sequences Attachments KWIC Drawi Desc Image 9. Document ID: US 5912161 A

L13: Entry 9 of 19

File: USPT

US-PAT-NO: 5912161

DOCUMENT-IDENTIFIER: US 5912161 A

TITLE: Enzymes for the production of 2-keto-L-gulonic acid



10. Document ID: US 5876983 A

L13: Entry 10 of 19

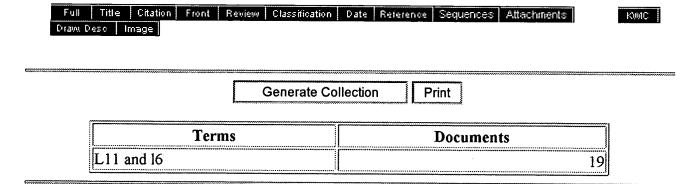
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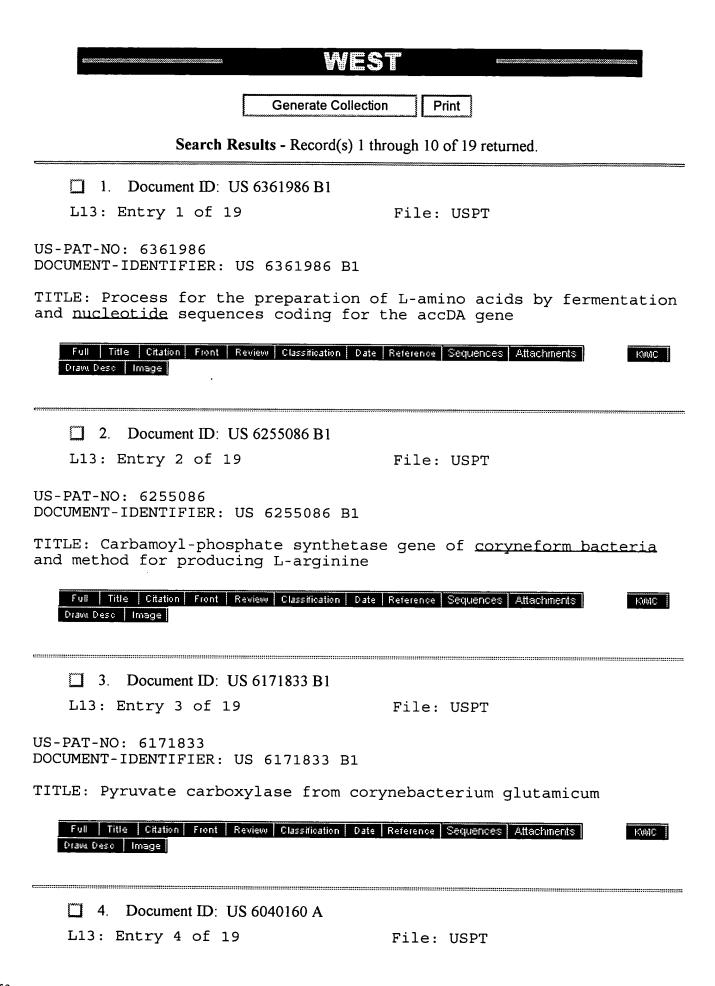
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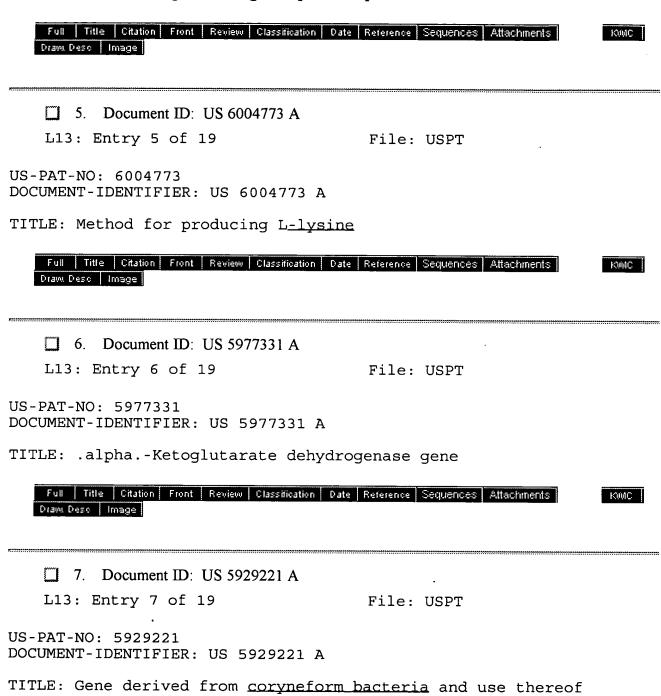
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US-PAT-NO: 6040160

DOCUMENT-IDENTIFIER: US 6040160 A

TITLE: Method of producing L-lysine by fermentation



Full Title Citation Front Review Classification Date Reference Sequences Attachments

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☐ 8. Document ID: US 5919694 A

KMC

L13: Entry 8 of 19

File: USPT

US-PAT-NO: 5919694

DOCUMENT-IDENTIFIER: US 5919694 A

TITLE: Mutant phosphoenolpyruvate carboxylase, its gene, and

production method of amino acid

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KMC |
Draws Desc | Image |

9. Document ID: US 5912161 A

L13: Entry 9 of 19

File: USPT

US-PAT-NO: 5912161

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TITLE: Enzymes for the production of 2-keto-L-gulonic acid



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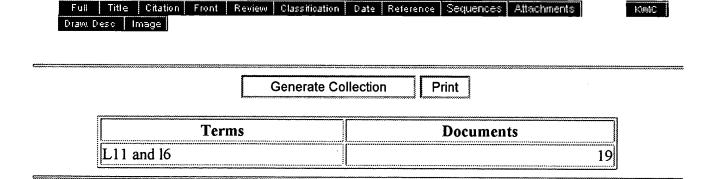
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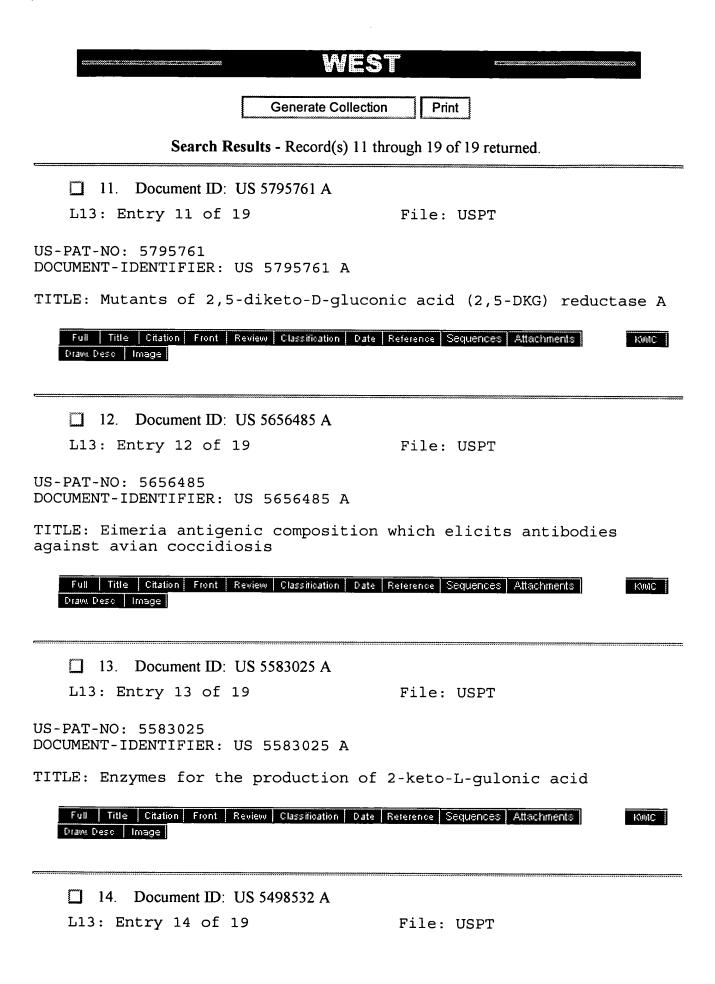
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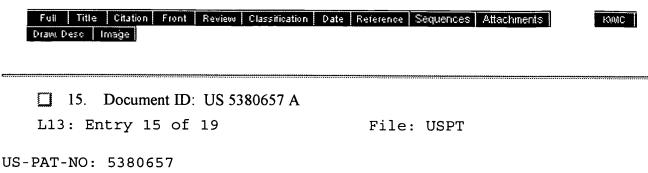
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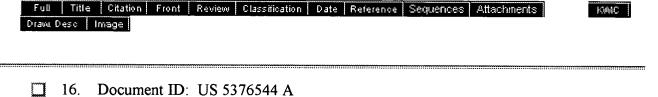
TITLE: Process for producing amino acids



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TITLE: Method for isolation of insertion elements from coryneform

bacteria

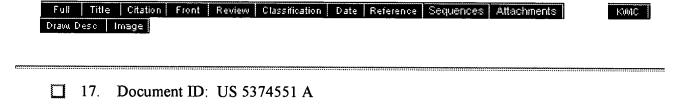


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US-PAT-NO: 5376544

DOCUMENT-IDENTIFIER: US 5376544 A

TITLE: Enzymes for the production of 2-keto-L-gulonic acid



L13: Entry 17 of 19 File: USPT

US-PAT-NO: 5374551

DOCUMENT-IDENTIFIER: US 5374551 A

TITLE: Methods for detection, identification and speciation of

members of the genus Listeria



18. Document ID: US 5279960 A

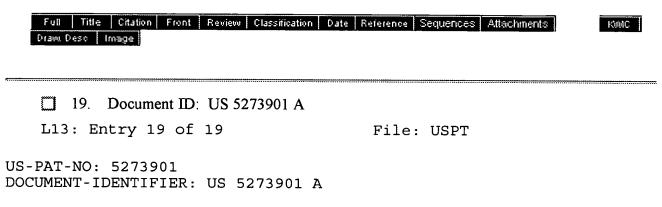
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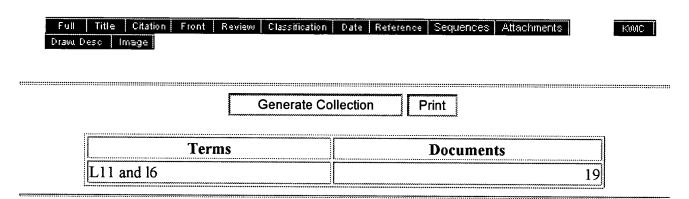
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DOCUMENT-IDENTIFIER: US 5279960 A

TITLE: 25 KD coccidial antigen of eimeria tenella



TITLE: Genetically engineered coccidiosis sporozoite 21.5 Kb antigen, ac-6b



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